

IN THE SPECIFICATION:

Please insert the following new paragraph and headings on page 1, prior to line 4:

CROSS REFERENCE TO RELATED APPLICATION

This patent application is the U.S. National Stage of International Application No. PCT/IB2003/001812 filed May 9, 2003 and published in English on November 18, 2004 under International Publication Number WO 2004/100596 A1.

BACKGROUND OF THE INVENTION

Please amend the paragraphs beginning on page 1, line 11 through page 2 line 21 as follows:

In most industrialized countries telephony services have been formerly operated by private or mainly state-owned monopoly telephony service operators. Today, the markets of telephony services are deregulated such that telephony services are offered and operated by several independent telecommunication network operators who compete with each other. That is, a user of telephony services ~~is~~is the customer of one of the several independent telecommunication network operators, which switches and negotiates ~~communication a~~ communication connection, ~~respectively,~~ initiated by a user denoted ~~as~~as the initiator to another user denoted ~~as~~as the recipient. The recipient is ~~also~~also a customer of one of the several independent telecommunication network operators but not necessarily of the same operator as the initiator. So the communication connection between the initiator and the recipient is either established in a communication network of one telecommunication network operator or handled by at least two telecommunication network operators routed therebetween via one or more communication handing over nodes, which interconnect the communication networks of the at least two telecommunication network operators involved.

The competition situation between the independent telecommunication network operators leads to different ~~charges~~charges depending among others on the involved

communications networks to be employed for establishing the communication connection. That is, a communication connection, which is established within a communication network of one telecommunication network operator, is ~~less-charged less than in~~ a case where the communication connection is established within two communication networks of different telecommunication network operators.

The disadvantages for users of telecommunication services within a telephony market serviced by several independent telecommunication network operators will be described ~~morein more-in~~ in detail with a view in view of the -to-the German mobile telephony service market which is illustrated as an example for the actual situation in other countries. More particularly, the exemplary explanation will be given with respect to public land mobile telephony service operators. Until the fourth quarter of the year 2002, the operators of public land mobile networks (PLMN) blocked the distribution of telephone numbers of their range to alien operators. That means, a state regulatory entity allocated on demand a block of telephone numbers which is distinguished by a typical dialing code which is formed of a prefix sequence of digits, for example four digits. An individual sequence of digits is added to the dialing code placed first such that the resulting sequence of digits forms an unambiguous telephone ~~numbersnumber~~. Due to the fact that each block of telephone numbers is assigned to one certain public land mobile telephony service operator the initiators of a telephony communication connection (such as a telephone call) were able to identify unambiguously the identity of the public land mobile telephony service operator that serves the recipient by identifying the dialing code. Consequently, the initiators were also able to at least estimate the costs of the initiated telephony communication connection.

The situation has changed in the fourth quarter of 2002. Users of mobile terminal devices ~~gotwere~~ allowed to change to another public land mobile telephony service operator while keeping their telephone number. Therefore, the identification of the public land mobile telephony service operator serving telephony services for a certain telephone number is not transparent any more to the initiators of a call. The formerly assigned dialing codes are not unambiguously assigned to respective public land mobile telephony service ~~operatoroperators~~ any longer. ~~Due~~ But due to the differently applied charges arising for calls into different networks of public land mobile telephony service operators it ~~is~~ is still desirable for initiators of telephony communication connections to be informed about the name (identity) of the public land mobile telephony service ~~operatoroperators~~ that is targeted by the telephony communication connection. This situation of change has also occurred in other countries, including the United States.

At page 2, please add the following new heading prior to line 30.

BRIEF SUMMARY OF THE INVENTION

At page 2, please amend the paragraphs beginning on line 35 through page 3, line 13 as follows.

The object of the present invention is achieved with methods for information retrieval as defined in claim 1, claim 9 and claim 14, with devices for information retrieval as defined in claim 18 and claim 19 and with a system for information retrieval as defined in claim 21. Embodiments of the invention are defined by the dependent claims described below with regard to various methods and devices for network information retrieval including a communications terminal, a network serving entity, and a system for network information retrieval.

According to an aspect of the present invention, a method for network information retrieval is provided. In particular a method for retrieval of network information about network operators associated with a telephone number is provided. More particularly, the network operators serve telephony services. To perform the method, a request is coded which comprises one or more telephone numbers. ~~Th request~~The request is transmitted to a network serving entity for performing the network information retrieval and a corresponding response is received from the network serving entity ~~in as a~~as a consequence ~~on the of the~~of the request. The response comprises network information about network operators relating to the one or more telephone numbers. The response is decoded to extract the network information and the network information is stored accordingly in conjunction with the one or more telephone numbers.

At page 3, please amend the paragraphs beginning on line 21 through line 33 as follows.

According to an embodiment of the present invention, the one or more telephone numbers are chosen from a plurality of telephone numbers stored in a telephone directory of the communication terminal. The telephone directory may be a digital (electronic) telephone directory editable by the user. Such a telephone directory may be also embodied and designated as contact directory including a plurality of contact

entries each of which includes for example a designation, one or more telephone ~~number~~numbers, an address, etc. That is, a contact and contact entry may serve, respectively, to manage telephone, address and personal information about a person.

According to an embodiment of the present invention, a user of the communication terminal may perform manually the selecting of the one or more telephone numbers from the telephone directory and contact directory, respectively. The manual selection ~~may~~may be operable with instructions inputted via inputting means of the communication terminal (such as keys, switches, actuators etc.)

At page 4, please amend the paragraphs beginning on line 22 through page 5 line 3 as follows.

According to an embodiment of the present invention, the network information comprises also charging information and in particular charging information about the network operator in accordance to which network information has ~~being~~been retrieved.

According to an aspect of the present invention, a method for network information retrieval is provided. In particular a method for serving retrieval of information about network operators associated with a telephone number is provided. More particularly, the network operators serve as a provider of telephony services. A request is received from a communication terminal. The request comprises one or more telephone numbers. The request is decoded to extract the one or more telephone numbers and on the basis of the one or more telephone numbers a network information about the operator is retrieved. A response is coded which includes the retrieved network information and the coded request is transmitted to the communication terminal from which the request originated.

According to an embodiment of the present invention, the retrieving may include an accessing to one or more data storages and in particular to one or more ~~database~~databases. The data storages and the databases are for managing and handling network information, respectively, which is associated with a plurality of telephone numbers and the retrieval of network information is adapted to obtain network information relating to the telephone numbers on the basis of which the retrieval is performed.

At page 5, please amend the paragraph beginning on line 20 as follows.

According to an aspect of the present invention, a method for network information retrieval is provided. In particular the method is provided for retrieval of network information about network operators serving telephony services for a communication terminal identified by a telephone number. To perform the method, a request is coded which comprises one or more telephone numbers. ~~The request~~The request is transmitted to a network serving entity for performing the network information retrieval. The network serving entity receives the request ~~is received~~ from the communication terminal. The request is decoded to extract the one or more telephone numbers and on the basis of the one or more telephone numbers network information about network operators is retrieved. A response is coded which includes the retrieved network information and the coded response is transmitted to the communication terminal from which the request has originated. The corresponding response is received by the communication terminal from the network serving entity in response to the request. The response comprises network information relating to the one or more telephone numbers. The response is decoded to extract the network information and the network information is stored accordingly in conjunction with the one or more telephone numbers.

At page 6, please amend the paragraphs beginning on line 6 through page 7, line 8 as follows.

According to an aspect of the ~~preset~~present invention, a computer program product for network information retrieval is provided which comprises program code portions stored on a computer readable medium for carrying out the aforementioned methods when the program product is executed on a microprocessor based component, processing device, a terminal device, a communication terminal ~~device~~device, a serving device or a networked device.

According to an aspect of the ~~preset~~present invention, a software tool for network information retrieval is provided. The software tool comprises program portions for carrying out the operations of the aforementioned methods when the software tool is implemented in a computer program and/or executed.

According to an aspect of the preset invention, a computer data signal is provided which is embodied in a carrier wave and represents instructions which when executed by a processor cause the operations of ~~anyone~~any one of the aforementioned methods to be carried out. Thereby Internet applications of the invention are covered.

According to an aspect of the present invention, a communication terminal is provided. In particular, the communication terminal is adapted to perform the method for network information retrieval according to an embodiment of the invention. The communication terminal comprises a coding component, a communication interface, a decoding component and a storing component. The request coded by the coding component comprises at least one or more telephone numbers. The communication interface is employed to convey this request to a network serving entity, which answers to ~~request~~the request by transmitting back a response, which is received again by the communication interface. The decoding component is adapted to decode and extract network information included in the received response. The network information relates to the one or more telephone numbers originally comprised in the request. The storing component is adapted to include the network information into a telephone directory and contact directory, respectively; wherein the storing is performed on the basis of the telephone numbers relating to the extracted network information.

According to an aspect of the present invention, a network serving entity is provided. In ~~particular~~particular, the network serving entity is adapted to perform the method for network information retrieval according to an embodiment of the invention. The network serving entity comprises a communication interface, a decoding component, a retrieval component and a coding component. The communication interface component is for receiving a request from a communication terminal and for transmitting a response to the communication terminal. The decoding component is adapted to ~~decoding~~decode the request, which includes one or more telephone numbers, and to extract the one or more telephone numbers. The retrieving component is adapted to retrieve network information in accordance with the one or more telephone numbers. The coding component is adapted to code the response, which comprises the retrieved network information.

At page 7, please amend the paragraph beginning on line 14 as follows.

The communication terminal comprises a coding component, a communication interface, a decoding component and a storing component. The request coded by the coding component comprises at least one or more telephone numbers. The communication interface is employed to convey this request to a network serving entity, which answers to ~~request~~a request by transmitting back a response, which is received again by the communication interface. The decoding component is adapted to decode

and extract network information included in the received response. The network information relates to the one or more telephone numbers originally comprised in the request. The storing component is adapted to include the network information into a telephone directory and contact directory, respectively; wherein the storing is performed on the basis of the telephone numbers relating to the extracted network information.

At page 7, please amend the paragraph beginning on line 33 as follows:

The accompanying drawings are included to provide a further understanding of the invention and are incorporated in and constitute a part of this specification. The drawings illustrate embodiments of the present invention and together with the description serve to explain the principles of the invention. ~~In the drawings,~~

At page 8, please add the following heading prior to line 1.

BRIEF DESCRIPTION OF THE DRAWINGS

At page 8, please amend the paragraph beginning on line 9 as follows.

~~Fig. 2b~~Fig. 2c shows alternative example illustrations of a user interface of a communication terminal with respect to those example illustrations depicted in Fig. 2a;

At page 8, please add the following heading prior to line 20.

DETAILED DESCRIPTION OF THE INVENTION